United States Patent [19]

DiSanto et al.

[11] **Patent Number: 4,892,607**

[45] **Date of Patent: Jan. 9, 1990**

[54] **CHIP MOUNTING TECHNIQUES FOR DISPLAY APPARATUS**

[75] Inventors: **Frank J. DiSanto**, North Hills; **Denis A. Krusos**, Lloyd Harbor, both of N.Y.

[73] Assignee: **Copytele, Inc.**, Huntington Station, N.Y.

[21] Appl. No.: **208,854**

[22] Filed: **Jun. 14, 1988**

Related U.S. Application Data

[63] Continuation of Ser. No. 938,147, Dec. 4, 1986, abandoned.

[51] **Int. Cl.**[4] **B32B 31/28**

[52] **U.S. Cl.** **156/275.7**; 156/297; 357/73; 357/74; 445/24

[58] **Field of Search** ..... 357/30, 67, 72, 74, 357/80; 250/492.1, 492.2, 372, 493.1, 504 R; 350/332, 333, 96.11, 96.12; 445/24; 340/718, 719; 437/51, 180, 209, 248; 156/272.2, 275.5, 275.7, 297, 299, 308.2

[56] **References Cited**

U.S. PATENT DOCUMENTS

1,946,878	2/1934	Pazziani	156/299
3,989,778	11/1976	Osborne	156/308.2
4,222,635	9/1980	Jolke	156/275.5
4,418,284	11/1983	Ogawa	156/275.7
4,661,191	4/1987	Kamio	156/275.7

Primary Examiner—Merrell C. Cashion, Jr.
Attorney, Agent, or Firm—Arthur L. Plevy

[57] **ABSTRACT**

Driver circuit chip mounting techniques for use in the fabrication of monolithic flat panel displays are disclosed in accordance with the teachings of the present invention. According to a preferred embodiment, a driver circuit having a spot of optical cement is precisely positioned within a location of metalized, grouped and patterned row or column conductors. Thereafter collimated ultraviolet light is imaged through the display onto the rear of the driver circuit until the optical cement has become sufficiently tacky to permit the display to be inverted whereupon collimated ultraviolet light may be directly applied to complete the full curing of the optical cements.

5 Claims, 3 Drawing Sheets